

model was used. In this model a cohort of 10,000 bipolar I disorder patients was created using Dutch data on relevant patient characteristics. This cohort was then used for the comparison of the different treatment options. The treatment options compared in the model were: 1). quetiapine & lithium; 2). olanzapine & lithium; and 3). risperidone & lithium. For effectiveness four trials on quetiapine were used. The effect measure was the number of serious side effects. Serious side effects were: extra pyramidal symptoms and/or more than 7% weight gain. Included costs were: drug costs, hospital costs, hospital visits and laboratory tests (2003 price levels). **RESULTS:** For the combination therapy of quetiapine & lithium, the incremental net costs per serious side effect averted were €1203 compared to risperidone & lithium and €3481 compared to olanzapine & lithium. The effectiveness on hospital stay is comparable over the three combination therapies compared. **CONCLUSIONS:** Serious side effects may be averted with quetiapine & lithium therapy at incremental costs. Whether these costs are acceptable requires further research into the 'willingness to pay' to avert one serious side effect.

PMH15

GALANTAMINE REDUCES CAREGIVER BURDEN: RESULTS FROM A NATURALISTIC STUDY

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OBJECTIVES: To quantify the effect of galantamine on burden of caregivers of patients with Alzheimer's Disease (AD) enrolled in INSPIRE (Investigation in a Naturalistic Setting of Patients Initiated on Reminyl). **METHODS:** INSPIRE is a prospective, observational study conducted across Canada in general practice and specialist sites, involving 471 patients 65 years or older with mild to moderate AD. Patient and caregiver demographics were recorded at baseline, with effectiveness measured by the Mini-Mental State Examination (MMSE) and Physician's Clinical Global Impression—Disease Status (CGI) at both baseline visit and final visit at 3 months. Caregiver stress was assessed using the Zarit Burden Interview (ZBI). Analysis was based on two-sided paired t-test. **RESULTS:** This preliminary analysis included 248 patients and caregivers, all of whom had completed the study at time of analysis. Of these patients, the mean age was 80.6 ± 6.5 , 61% were female, 54% had a high school degree or less, and 74% lived with their spouse or partner. The mean age of caregivers was 61.4 ± 14.6 . The caregiver sample was predominately female (75%), most lived with the patient (54%), and 42% employed on a full-time or part-time basis. At baseline, the mean caregiver ZBI score was 21.5 ± 12.6 . Significant improvement in caregiver burden (mean change 1.5 ± 8.4 , $p = 0.006$) was shown after three months of galantamine treatment. **CONCLUSIONS:** The efficacy and safety of galantamine has been demonstrated in multiple randomized, double-blind, placebo-controlled trials in patients with mild-to-moderate AD. This naturalistic study shows that galantamine significantly reduces burden among caregivers of patients with AD. Overall, galantamine has a broad ranging beneficial effect from both patient and caregiver perspectives.

PMH16

EFFECT OF BEHAVIOURAL AND PSYCHOLOGICAL SYMPTOMS OF DEMENTIA (BPSD) ON COST OF CARE IN THE CANADIAN OUTCOMES STUDY IN DEMENTIA

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OBJECTIVES: To determine the contribution of behavioural symptoms to the costs associated with caring for patients with dementia. **METHODS:** Data from the Canadian Outcomes Study in Dementia (COSID), a 3-year prospective study of community-dwelling dementia patients was examined. Cognition was assessed with the Mini-Mental State Examination (MMSE) and behaviour with the Neuropsychiatry Inventory (NPI). Resource utilization was evaluated monthly with caregiver-completed resource use (RU) questionnaires, which included frequency of community resource use (e.g., home care nurses, Meals-on-Wheels, etc.), hospitalization and respite care, outpatient visits and drug use (direct costs), as well as questions about time away from work or leisure activities for both patient and caregiver (indirect costs). Costs were calculated in 2000 Canadian dollars. **RESULTS:** Five hundred dementia patients and their caregivers who provided a minimum of 6 of 12 completed RU questionnaires were included in this 1-year preliminary analysis. At baseline, average age of patients was $76.3 (\pm 6.3)$, 47% were male, and 82% were diagnosed with AD. Average MMSE was $22.4 (\pm 4.5)$ and average NPI $8.8 (\pm 11.1)$; range 0–69). Total costs were estimated at \$1298 per month (\$113 for medication costs, \$237 for other direct costs, and \$948 for indirect costs). An analysis of covariance model, that included NPI, MMSE, gender, age, marital status, dementia diagnosis, type of residence, region of Canada, and number of medical comorbidities, showed that greater cognitive impairment, i.e., lower MMSE ($F = 12.77$, $p < 0.0004$), female gender ($F = 9.31$, $p = 0.0024$) and non-AD dementia diagnosis ($F = 6.27$, $p = 0.0126$) were significant covariates. After accounting for the covariates, there was a significant association between cost and NPI ($F = 22.46$, $p < 0.0001$). The incremental cost of a one-point increase in NPI score was \$32 per month (95% CI \$18–\$45). **CONCLUSIONS:** Behavioural and psychological symptoms of dementia (BPSD) contribute significantly to the total costs of caring for community dwelling dementia patients.

PMH17

HEALTH RELATED QUALITY OF LIFE (HRQOL) AND BURDEN OF FAMILY CAREGIVERS OF DIALYSIS PATIENTS

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OBJECTIVES: To evaluate the HRQoL and burden of family caregivers of dialysis patients and to analyze which variables were associated to it. **METHODS:** A sample of 221 patient-carer pairs, stratified by age and gender, was randomly selected from 14 dialysis units: 152 patients were on hemodialysis and 69 on peritoneal dialysis. Patients and carers answered the SF-36, obtaining Physical (PCS) and a Mental (MCS) Component Summary scores standardized by age and gender, and the Duke-UNK Functional Social Support (FSS). Carers also answered the Caregiver Burden Interview of Zarit (ZS). **RESULTS:** Mean PCS and MCS scores of carers were 48.4 ± 13.8 and 48.0 ± 11.3 respectively. Multiple regression analysis showed that the variables associated to lower PCS of the carer were: higher ZS and older patient age ($R^2 = 0.15$; $p < 0.001$). Variables associated to lower MCS were: higher ZS and lower FSS of the carer, and lower MCS of the patient ($R^2 = 0.29$; $p < 0.001$). Variables associated to a higher ZS of carers were: lower FSS and lower PCS and MCS scores of the carer and higher age and lower PCS and MCS scores of the patient ($R^2 = 0.49$; $p < 0.001$). Carers with a MCS ≤ 42 points (cutoff point associated with depression) were 28.3% (95%CI = 22.4–34.8). Logistic regression analysis

showed that variables associated to having a MCS ≤ 42 points were: higher ZS and lower FSS of carer. **CONCLUSIONS:** The HRQoL of caregivers is slightly worse than that of the general population of the same age and gender. Physical health status is more damaged in those caregivers suffering greater burden and caring for older patients, and mental health status is more damaged in those suffering greater burden, feeling lower social support and caring for patients with worse mental health status. The burden experienced by family carers depends on perceived social support, age of patient and physical and mental health status of carer and patient. A significant percentage of carers have depression which is associated to greater burden and lower social support perceived.

PMH18

TRANSLATION, GREEK ADAPTATION AND STANDARDIZATION OF THE VERONA SERVICE SATISFACTION SCALE (VSSS-54): AN INSTRUMENT PATIENTS' SATISFACTION WITH MENTAL HEALTH SERVICES
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OBJECTIVES: To describe the process of the adaptation and standardization of the VSSS-54 (Verona Service Satisfaction Scale) in Greece. **METHODS:** The methodology followed was identical with this of the EPSILON study of schizophrenia. The Italian Version of the VSSS-54 was first translated into Greek, by two bilingual translators. The resulting translation was then back-translated into Italian by a professional translator. The back-translation was checked by the authors of the VSSS and compared with the original version. The content and the language of the final Greek translation were discussed in focus groups, carried out in the Department of Psychiatry of the University General Hospital of Ioannina. The analysis of results of the first group (patients-relatives) as well as the second group (professionals), allowed us to retrieve useful information related to the adaptation of the Italian questionnaire VSSS into the Greek language. The research was carried out in two outpatient psychiatric services in Athens and in Ioannina. A total of 150 patients were selected (87 women, 63 men), whose age ranged from 18 to 65 ($M = 43.7$, $SD = 11.45$). Among them 64 (43%) had diagnosis of schizophrenia or other psychosis, 74 (49%) affective disorder and 10 (6.6%) anxious disorders. The reliability analyses are based on classical test theory. Reliability measures used are Cronbach's α , Cohen's weighted k , and the intra-class correlation coefficient. **RESULTS:** The α coefficient for the VSSS total score was 0.917 (95%CI 0.878–0.948). Test-retest reliability was proven to be good. **CONCLUSIONS:** The psychometric properties of the Greek version of the VSSS are similar to those of the Italian and the other European versions of the instrument, outcome which proves that it is a valid and reliable instrument to use in the Greek context.

PMH19

CHANGES IN NOVEL ANTIPSYCHOTIC USE IN ELDERLY INPATIENTS

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OBJECTIVES: The use of novel antipsychotics (NAs) has steadily increased and they are now the dominant choice among antipsychotic agents. Antipsychotics are often prescribed in elderly patients who become agitated or develop psychotic symptoms. New indications, primarily mood disorders, have also contributed to growing use. We set out to determine overall prescribing frequency of NAs and changes in patterns of use for specific NAs in elderly patients admitted to a psychiatric hospital

over 5-years. **METHODS:** This was a retrospective analysis of elderly (≥ 65 years) patients admitted to a psychiatric hospital from fiscal year (FY) 2000–2004. All NAs prescribed during each patient admission were identified from the pharmacy database. Patient demographics, length of stay, and diagnoses were collected for each patient admission. Descriptive statistics were performed as well as a multivariate logistic regression to determine factors that influenced NA prescribing. **RESULTS:** There were 2179 elderly patients admitted during the 5-year timeframe. The mean age was 78 years, 63% were female, and 83% were white. The average length of stay was 21 days and did not differ across FYs. The proportion of hospital admissions where NAs were prescribed in elderly patients increased significantly ($p < 0.001$) over the five-year period from 50% in FY 2000 to 63% in FY 2004. Prescribing increased the most for quetiapine: 13% in FY 2000 to 27% in FY 2004. Independent factors associated with NA prescribing were female sex ($OR = 1.2$, $p = 0.05$), Alzheimer's Disease/dementia diagnosis ($OR = 1.9$, $p < 0.001$), psychotic disorder diagnosis ($OR = 4.7$, $p < 0.001$) and increasing FY ($OR = 1.2$, $p < 0.001$). Black race ($OR = 0.8$) and depression diagnosis ($OR = 0.5$) were associated with a reduced odds of receiving a NA. **CONCLUSIONS:** NA prescribing in elderly inpatients has increased significantly in the last five years, with quetiapine use increasing the most. Diagnoses of Alzheimer's Disease/dementia and psychotic disorders were independent predictors of NA use.

PMH20

RELATION BETWEEN SYMPTOMS IN SCHIZOPHRENIA AND RISK OF HARM TO SELF AND OTHERS

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It's widely assumed that patients rehabilitate better in community than in inpatient facilities. Moreover deinstitutionalization saves health care costs. However, deinstitutionalization may reduce patients' compliance and entail substantial risks since patients with schizophrenia have increased risk of becoming violent and/or committing suicide. **OBJECTIVE:** Investigate the relation of risk of harming self and/or others and symptoms in schizophrenia to improve prevention and diagnosis of patients who present a risk to society. **METHOD:** The association between Positive and Negative Symptom Scale (PANSS) and risk of harming self/others as measured by Camberwell Assessment of Need (CAN) score was assessed using logistic regression ($N = 171$). Standard statistical tests were applied to evaluate the significance of relationship between total PANSS, sub-scores (negative, positive, general psychopathology) and all 30 items, and risk of harming self/others. Receiver Operating Characteristic (ROC)-curves were used to assess discrimination. Calibration was quantified by the slope of the prognostic index. Model parameters were internally validated by bootstrapping. **RESULTS:** PANSS is significantly associated with risk of harming self/others with an area under the curve (AUC) of ROC of 0.763. Patients with total PANSS of 70 and 80 have a 6.8% (95% CI 3.6%–12.4%) and 9.8% (95% CI 5.1%–17.8%) risk of harming self and/or others respectively. The models including PANSS negative sub-score or PANSS blunted affect item had an AUC of ROC of 0.784 and 0.786 respectively for patients' risk of harming self and/or others. Discussion: Reducing (negative) symptoms, especially blunted affect, may reduce patient's risk of